

What is claimed is:

1. A method for automatically provisioning a plurality of computing devices, comprising the steps of:
 - storing a model for each type of device in a database, said model including
 - 5 a description of software components installed on a device and configuration parameter values for the software components; and
 - transmitting messages from said database to said devices which contain data from said model and cause software components on said devices to be configured in accordance with said data.
- 10 2. The method of claim 1, further including the step of modifying a model stored in said database, and sending a message to all devices associated with said model to cause said devices to reconfigure themselves in accordance with the change in the model.
- 15 3. The method of claim 1, wherein said messages are transmitted by means of a gateway that provides an interface between the database and the devices, and further including the step of converting messages in said gateway from a first protocol associated with the database to a second protocol employed by said devices.
- 20 4. The method of claim 3, wherein said second protocol includes remote procedure calls.
5. The method of claim 4, wherein said second protocol comprises XML-RPC.

6. The method of claim 1, further including the step of recognizing a change in configuration in one of said devices, and modifying said model in accordance with the change in configuration.

7. The method of claim 6, further including the step of sending a message to all other devices of the same type as said one device, which causes said other devices to reconfigure themselves in accordance with the change in the model.

8. The method of claim 1, further including the step of sending messages from said database to said devices which cause said devices to retrieve software components from a source external to said devices and install said software components on the devices.

9. The method of claim 8, further including the step of storing said software components in a file system, wherein said components are classified into multiple roles which respectively contain different categories of software.

10. The method of claim 9, wherein the categories of software are determined in accordance with the probable frequency with which their respective components are likely to be changed during the service lifetime of a device.

11. The method of claim 9, wherein the model of a device is stored in said database as one set of software components from each of said multiple roles.

12. The method of claim 11, wherein one of said roles includes operating system software for the devices.

13. The method of claim 12, wherein another of said roles includes application programs for said devices.

14. The method of claim 12, wherein another of said roles includes data content associated with the devices.

5 15. The method of claim 1, wherein the step of transmitting messages comprises the steps of storing commands in a queue in said database, sending a first message containing the first command in said queue, awaiting a report from a device that the first message has been executed, and sending the next command in the queue in response to said report.

10 16. The method of claim 1, further including the step of installing an agent on said devices, which agent has a level of authority that enables it to manipulate operating system software installed on said devices, and wherein said messages are transmitted from said database to said agents on said devices to cause said agents to configure said software components.

15 17. A method for automatically provisioning a plurality of computing devices, comprising the steps of:

storing a model for each type of device in a database, said model including a description of software components installed on a device; and

transmitting messages from said database to said devices which contain data
20 from said model and cause said devices to retrieve software components from a source external to said devices and install said software components on the devices.

18. The method of claim 17, wherein said messages are transmitted by means of a gateway that provides an interface between the database and the

devices, and further including the step of converting messages in said gateway from a first protocol associated with the database to a second protocol employed by said devices.

19. The method of claim 18, wherein said second protocol includes
5 remote procedure calls.

20. The method of claim 19, wherein said second protocol comprises XML-RPC.

10 21. The method of claim 17, further including the step of storing said software components in a file system, wherein said components are classified into multiple roles which respectively contain different categories of software.

22. The method of claim 21, wherein the categories of software are determined in accordance with the probable frequency with which their respective components are likely to be changed during the service lifetime of a device.

15 23. The method of claim 21, wherein the model of a device is stored in said database as one set of software components from each of said multiple roles.

24. The method of claim 23, wherein one of said roles includes operating system software for the devices.

25. The method of claim 24, wherein another of said roles includes application programs for said devices.

20 26. The method of claim 24, wherein another of said roles includes data content associated with the devices.

27. The method of claim 17, wherein the step of transmitting messages comprises the steps of storing commands in a queue in said database, sending a first message containing the first command in said queue, awaiting a report from a device that the first message has been executed, and sending the next command in
5 the queue in response to said report.

28. The method of claim 17, further including the step of installing an agent on said devices, which agent has a level of authority that enables it to manipulate operating system software installed on said devices, and wherein said messages are transmitted from said database to said agents on said devices to cause
10 said agents to install said software components.

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